

A CLINICAL FIELD TRIAL TO DETERMINE:

**The Efficacy of Oxytetracycline-medicated Feed to Control Mortality
caused by Columnaris, Causative Agent *Flavobacterium columnare*, of
Juvenile Steelhead Trout *Oncorhynchus mykiss*
Study # BOZ-98-OTF-02**

Study Director

James D. Bowker
U.S. Fish and Wildlife Service
Bozeman Fish Technology Center - National INAD Office
4050 Bridger Canyon Road
Bozeman, MT 59715
Phone: 406-587-9265 ext. 126
FAX: 406-582-0242

Investigator

Dan Free
U.S. Fish and Wildlife Service
Coleman National Fish Hatchery
U.S. Fish and Wildlife Service, Department of the Interior
24411 Coleman Fish Hatchery Road, P.O. Box 2105
Anderson, California 96007

ORIGINAL

Testing Site: U.S. Fish and Wildlife Service
Coleman National Fish Hatchery
24411 Coleman Fish Hatchery Road,
P.O. Box 2105
Anderson, California 96007
Phone: 530-365-8622
Fax: 20-365-0913

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Abstract

A clinical field trial was conducted at the Coleman National Fish Hatchery (Anderson, CA) to evaluate the efficacy of oxytetracycline-medicated feed (OTF) to control mortality in juvenile steelhead trout *Oncorhynchus mykiss* infected with systemic columnaris. Twelve test tanks, each holding approximately 6,400 fish, were used during the study. Fish in 10 of the test tanks received OTF at a dosage of 3.75 g active drug/100 lbs of fish/d for 14 consecutive days; fish in the other two test tanks received unmedicated feed and thus served as untreated controls. The 14-d OTF feeding regimen was followed by an 11-d post-treatment observation period. Fish used in the study were diagnosed with columnaris (causative agent *Flavobacterium columnare*) based on results from examination of inoculum from fish spleen streaked on Brain Heart Infusion agar and Tryptone Yeast Extract agar. At the end of the combined treatment and post-treatment periods, percent mean cumulative mortality was significantly less ($P < 0.001$) in treated tanks (7.8%; 493 fish) than in untreated tanks (23.5%; 1,501 fish). This difference in mortality was observed between treated and untreated groups of fish in spite of the fact that OTF at 3.75 g oxytetracycline/100 lbs fish was administered for 14 consecutive days to fish in the two untreated test tanks beginning on day 12 of the 14-d treatment period. By day 11 of the treatment period, mortality in the two untreated tanks had been so extensive that no further mortality was necessary to demonstrate treatment efficacy nor a significant difference in cumulative mortality between the two groups. Furthermore, hatchery personnel were concerned about mitigating excessive fish losses.

Mortality in these two tanks returned to near zero within 5 d of the onset of treatment. The OTF treatment regimen used was efficacious in controlling mortality in juvenile steelhead trout that was caused by systemic columnaris.